

## ABSTRACT

A technology is disclosed for holding the test subject  
contact surface temperature below a predetermined value  
5 without providing a temperature sensor or setting ultrasonic  
wave output excessively low and, according to this technology,  
reflex time  $t_1$ , which passes through oil 6, is reflected by  
the inner surface of window 5, and is returned via oil, and  
reflex time  $t_2$ , which passes through the window, is reflected  
10 by the outer surface of the window, and returned via window  
or oil, are detected,

$$\text{sound velocity of window} = (\text{thickness of window} \times 2) \\ / (t_2 - t_1)$$

is measured, and the surface temperature of the window is  
15 detected from this measured sound velocity.